An Assessment of the Objectives, Implementation and Effectiveness of the Adult Expanded Food and Nutrition Education Program

Summary

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THE CONGRESSIONAL MANDATE AND STUDY PLAN

The Expanded Food and Nutrition Education Program (EFNEP) is administered by the Extension Service of the U.S. Department of Agriculture (USDA) and operates in the following way. Each State Extension Service receives an allocation of funds based primarily upon the proportion of national poor residing in that State. Each State, in turn, determines how services will be concentrated in its locales (usually counties) using poverty level criteria as a guide. Recipient locales hire indigenous personnel who are trained in principles of nutrition (food purchasing, food preparation and preservation, sanitation, etc.) and who work with low-income homemakers usually on a one-to-one basis in the home, in order to increase their knowledge of nutrition principles and practices and to enhance the dietary practices of the entire family.

On July 12, 1979, the Senate Appropriations Committee mandated an inquiry into the purposes and objectives of the Expanded Food and Nutrition Education Program (EFNEP) and a realistic evaluation of its accomplishments and effectiveness to date (Senate Report No. 96-246). In response to this mandate, which was comprised of some seventeen questions, the Program Analysis Staff of the Science and Education Administration's (SEA) Office of Joint Planning and Evaluation developed a study plan which was reviewed by Congressional and SEA staff prior to its implementation.*

Information pertinent to the mandated questions were collected by the following: (1) national level interviews documenting the different views of EFNEP goals, objectives and accomplishments; (2) study analyzing the allocation of funds and targeting of services; (3) literature review synthesizing available

*Twenty percent of the program funds are used to support a youth program which, due to limitations of time and resources, was not included as part of this study.

Relationship of the Congressional Questions to the Study Modules

Purposes and Objectives	National Interviews	Targeting of Funds and Services	Program Implementation	Comparative Analysis	Literature Synthesis / State and Local Field Work
1. What is the goal and why? Is the goal the same today as it was when the program was first established?	✓				✓
2. Has each purpose been stated in such a way as to make it possible to develop quantitative measures of progress?	✓		✓		✓
3. Has agreement been reached among all parties as to the purposes of the program?	✓		✓		✓
4. What is the current extent of the problem? What measurements or indicators are used to describe the problem? What is the target audience and why? Should the target audience be shifted?	✓	✓	✓		✓
Program Evaluation					
1. What is the impact of the program on the resolution of nutrition problems? To what extent has the program met its objectives?	✓		✓		✓
2. What standards or criteria are used to measure the attainment of program objectives? How valid are these standards or criteria?	✓		✓		✓
3. What are the benefits achieved by each program's activities in each county?					✓
4. What is the cost-effectiveness or cost-benefit ratio for each program? How does this cost vary by State and by county? To what is this variation attributable?			✓		✓
5. What procedures have been used to establish that there is a cause-effect relationship between EFNEP program activities and the solution of nutrition problems?	✓		✓		✓
6. How does the effectiveness of EFNEP programs compare with the possible effectiveness of other methods of achieving nutrition education objectives such as food stamps, the women, infants, and children program, and nutrition education in the schools?	✓			✓	
7. What procedures are followed to insure that all relevant and current nutrition-related research is made available and considered in planning and implementing EFNEP program activities?	✓		✓		✓

EFNEP information and related documents; and (4) field work at the State and local levels documenting program goals, objectives, implementation and effectiveness. The relationship of the mandated questions to these four modules are indicated in Table 1.1 by a check mark.

THE FOUR STUDY MODULES

National Interviews Documenting the Different Views of EFNEP Goals, Objectives and Accomplishments

Interviews were conducted with 57 people who have Federal responsibilities and who were either involved with EFNEP in an administrative or public role, or involved with other nutrition education programs. In these interviews the following kinds of questions were addressed:

1. What are the goals and objectives of EFNEP and how have they changed, if at all, over the years?
2. What mechanisms exist to accomplish program objectives and what evidence would indicate accomplishments?
3. What evidence on program accomplishment have you and/or would you like to receive?
4. In your opinion, how satisfactory is the program as it is currently constituted and how might it be improved?

The results of these interviews were used in combination with other information to focus issues addressed in other modules of the study and to develop a simplified schematic of the way the program operates.

Study Analyzing the Targeting of Funds and Services

This study examined the ways in which funds are currently allocated to States and counties, and how this process might be modified using different data sources, allocation formulae and indicators of "need".

A comprehensive data base that encompasses county-level information was assembled. This data base contains the following kinds of information:

demographic measures from the 1970 Census such as the number and percent of low-income families in each county; county level participation in the Food Stamp, Women, Infants and Children (WIC) and Nutrition Education and Training in Schools (NET) programs; nature and extent of participation in EFNEP including the direct and in-kind support that State and local sites give to the program; and, health/nutrition-related vital statistics.

Literature Review Synthesizing Available EFNEP Information and Related Documents

This module entailed a survey and synthesis of existing literature and other documents pertaining to two major concerns: (1) the nature of evidence pertaining to the way the program has been or might be implemented; and, (2) the way the program operates as compared with some other Federally funded nutrition education programs.

Field Work at State and Local Levels Documenting EFNEP Goals, Objectives, Implementation and Effectiveness

In this module information was collected in a selected set of States and local sites concerning the goals and objectives of the program, program operations and the benefits families derive from participation. This module was by far the largest in terms of study resources and was conducted under contractual arrangement with InterAmerica Research, Inc., a minority-owned firm with extensive experience in conducting studies with low-income and minority populations.

An initial set of interview questions was developed by SEA staff on the basis of the mandate and the results of the national-level interviews. They were reviewed and revised by persons knowledgeable about the program or about nutrition education and were then given to InterAmerica to field test and revise on the basis of field test results. During the Fall InterAmerica had their

interview teams working in nine States and 36 local sites across the country.* Six of these States were selected at random based on the amount of EFNEP funds they received. Thirty local sites were randomly selected based on their number of participating families. Three additional States, each with two sites were selected to review as examples of successful EFENP programs. In each State, State and local EFNEP staff were interviewed to ascertain the way they conduct the program. A sample of participating families were interviewed to learn of the benefits they derive from their participation. The teams also interviewed a sample of families who had been graduated from the program and with another sample of families who were eligible to participate but had not yet had the benefit of such participation. Further, the interviewers obtained a limited amount of information from the files on the participating families. State and local nutrition and social service personnel were interviewed to understand their relationship with EFNEP. [A total of nearly 2,000 interviews were conducted.] Another aspect of the field work involved a limited number of case studies of programs that are of special interest because they represent some unusual aspect of the program or adaptation of the program. Examples are the effects of discontinuing or starting up the program in a particular site, adaptation to the needs of special groups (e.g., migrants, native Americans, etc.), dramatic side benefits or secondary effects of program participation, generating additional funds from non-EFNEP sources, etc.

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*The interviewers were especially hired and trained for purposes of the study. Many of the interviewers had prior experience working with low-income families. An attempt was made to balance the teams ethnically to match the communities in which they were working.

Interaction With Concerned Parties

An advisory group was formed for the purpose of advising on procedural and substantive matters associated with the conduct of the study. It was comprised of representatives from different operating levels of EFNEP, the Office of the Secretary, the Office of Management and Budget, and public participation groups. Throughout the study a series of briefings on study progress was held with concerned parties (e.g., Directors of Extension and SEA and Congressional staff) and advice and critical comments were sought from evaluators, nutritionists and nutrition education researchers, with adjustments being made in the study design based upon their comments.

In the paragraphs that follow, the answers to the Congressional questions as well as to other questions that were necessary to round out the study, are presented in a question and answer format.*

THE STUDY RESULTS

What Is or Was the Nature of the Problem and What Measurements Are Used to Describe It?

In recognition of the fact that there was hunger and malnutrition in the U.S. and at the same time agricultural surpluses, efforts were begun in the mid-1930's to ameliorate this problem by redistributing food (commodity distribution) or providing the means to acquire food (food stamps). In the 1960's hunger and malnutrition again became a concern when it was noted that: (1) inadequate food consumption patterns were much more likely to be found among low-income families; (2) there were many such families; and (3) children and adults in many of these families were found to be suffering from inadequate

*See "An Assessment of the Objectives, Implementation and Effectiveness of the Adult Expanded Food and Nutrition Education Program: Technical Summary", ES, S&E, USDA, Washington, D.C., December, 1981.

nutrition and in some instances, severe malnutrition as evidenced by clinical observations.

What Efforts Have Been Made to Alleviate the Problem?

In response to these problems Congress introduced legislative changes which had the effect of expanding the Food Stamp program to more people, replaced the commodity distribution program with the Food Stamp program, instituted school lunch and breakfast programs, and provided special supplemental feeding assistance to needy pregnant women or new mothers and their children. The combined effect of these programs resulted in many millions of families and their children being served (in 1980 about 20 million persons participated in Food Stamps, 1.3 million in the Women, Infants and Children (WIC) program, and nearly 90% of all school age children had access to school feeding programs).

In addition to programs that enhance access to food more modest efforts were also initiated to educate people about nutritional principles and practices. These included EFNEP, WIC and Food Stamp educational efforts and the Nutrition Education and Training in the Schools (NET) program.

What is The Current Extent of the Problem? and What Efforts Can Be Made To Alleviate It?

A team of physicians, retracing steps taken ten years earlier found far fewer grossly malnourished people than during their initial visit in the late 1960's. They concluded that while many problems of the poor remained and even though the need for additional food could be documented in some cases, their need for food had been met and this improvement was reflected in the health of both children and adults. However, deficiencies remained for nutrient groups such as calcium, vitamin B-6 and iron (among women) with these deficiencies being greatest for low-income households. Recent concern has focused not only

on deficiencies but on over-consumption accompanied by obesity and its correlated health problems. Central to this latter concern is the need for a better understanding of the role of foods and specific nutrients in maintaining health for different segments of the population who may have very different nutritional requirements. To ameliorate these problems (specific deficiencies and over-consumption) it has been recommended that greater emphasis be given to nutrition education to help people make food choices resulting in sound diets and good health. Among these are increased efforts to meet the special needs of specific groups (e.g. low-income, pregnant women, children, adolescents, elderly, etc.), greater dissemination of nutrition information through public media, and greater involvement of trained nutritionists by other health professionals (e.g., physicians, dentists, nurses, public health workers, etc.).

What Are the Origins of EFNEP, Its Scope and Current Operations?

EFNEP was an outgrowth of a number of pilot projects initiated by the Extension Service in the early 1960's in an attempt to better meet the needs of homemakers who were more difficult to reach through its traditional approaches. Having demonstrated the feasibility of hiring and training indigenous personnel to work intensively with homemakers on a one-to-one basis or in small groups to improve their diet related skills and practices, the program was initiated on a large scale by USDA under the auspices of the Extension Service, in 1969. The program reached a funding plateau of about 50 million dollars in 1972 and has remained at about that level. As a consequence the effects of inflation have significantly reduced the number of eligible participants that can be served. A typical aide works with about 53 families visiting each once or twice a month in individual or small group settings. In 1980 some 3600 aides served about 2.75 million families (plus another better than half a million youth) in over 900 locales throughout the U.S. and Puerto Rico.

What is the Goal and Why? Is it the Same Today as When the Program Was First Established?

The stated goal of EFNEP is, "To help low-income families, especially those with young children to acquire the knowledge, skills, attitudes, and the changed behavior necessary to improve their diets in normal nutrition". The goal for the program grew out of considerations cited earlier (the nature of the problem and the origin of EFNEP). The views of the goal of the program as evidenced by most of the personnel at the national, state and local levels were consistent with this statement (about 80% overall) but, some emphasized different aspects than others (e.g., education versus behavior change). However, even those who emphasized the educative functions of the program thought that it should be judged on how it changed dietary practices. More than two-thirds of the persons interviewed thought the goal had remained the same and for those who thought there had been some change, there was little agreement as to the nature of this change.

Has Agreement Been Reached Among All Parties As to the Purposes of EFNEP?, and Has Each Purpose Been Stated In Such A Way As to Make It Possible To Develop Quantitative Measures of Progress?

As noted earlier most everyone agreed that EFNEP should be judged primarily on how it affects changes in dietary practices. Of course, this does not preclude judgements about how EFNEP also affects knowledge acquisition, attitude change and other events.

As a routine measure of progress each aide collects information periodically, via the 24 hour recall, on the homemaker's dietary intake. [These results are aggregated to the national level and are regarded as an indicator of overall program progress.] In addition, all aides have some kind of a check

list that they can use as a guide in assessing their progress in other areas in which they work with homemakers (e.g., sanitation, food purchasing, food storage and preparation, etc.). These two sources of information form the Progression Model which is to be used as a guide by the aide in determining homemaker progress, areas that need emphasis, and homemaker completion of the program. Approximate standards of attainment are indicated in this Progression Model. This information was cited most frequently by State and local personnel as being acceptable measures of program progress. The next most frequently cited were formal knowledge tests and informal behavioral indicators. Finally, another source of information on program accomplishments is obtained via program reviews. About half of the nine States and thirty-six sites included in the study had been reviewed by the national office within the past three years. [The frequency with which each State reviewed its own sites was not determined.]

What are the Difficulties Facing the Program in Meeting Its Objectives?

When asked about the nature of problems incountered by EFNEP in meeting its objectives, both national interviewees and State/local Extension Staff cited funding problems as being a major concern. While both groups see funding as a problem, national level personnel placed a higher priority on problems centered around program design (e.g., cost-effectiveness of the one-on-one approach, use of the 2-2-4-4 food groups, etc.).

What is the Logic Underlying the Implementation of EFNEP? and What is the Nature of the Evidence Supporting the Underlying Assumptions?

Based upon an examination of the legislation, program guidelines, program files and the results of the national level interviews an attempt was made to

specify the logical model or models that people employ in thinking about the way EFNEP operates. A single logical model was found to encompass all the different viewpoints as to what EFNEP is trying to accomplish. Essentially a causal chain of events, from more immediate program activities and benefits to longer term effects of these benefits and secondary benefits, were identified. It was apparent from the schematic developed that where one placed the emphasis in this causal chain would profoundly affect the judgement one would make about program effects (e.g., knowledge and attitude change, change in dietary practice, change in other family members' dietary practices, improved health, etc.). Literature could not be found which was relevant to the use in EFNEP of the paradigm that knowledge leads to attitude change which in turn leads to change in dietary practices. The literature that was available suggested that knowledge and attitudes might be considered equally powerful in bringing about change in dietary practice. No literature was found that pertained to the assumption that the use of indigenous paraprofessional aides was superior to the use of other kinds of personnel in providing nutrition education. However, literature could be found which documented the existence of many other causal linkages even though some of the studies had serious methodological inadequacies.

How Are Funds Currently Allocated to the States? and How Effective Are These Procedures in Getting Funds to States With the Greatest Need?

Ten percent of the sums appropriated for EFNEP are divided equally among the 50 States and Puerto Rico. The remainder is apportioned on the basis of the percent of the U.S. poor residing in each State, using 1960 and 1970 Census information. As a result there is a very high degree of relationship between the amount of funds a State receives and its percent of national poor in 1970 In turn, States with high concentrations of low-income families when compared

with other States, were found to have higher mortality rates, greater participation in different assistance programs, less wealth, greater proportions of their population were youth and lower proportions of their youth were living with both parents.

How Do States Focus EFNEP Activities in Their Counties?, What Contributions Do States and Locals Make to the Program? and What Role Does this Contribution Play in Determining Where Services Are Located?

The selection of counties in which they are to offer services is left to the option of the States with the understanding that they are to use poverty criteria as a guide in their selection. All of the nine States included in the survey indicated that they used low-income density as one criterion and in addition used such criteria as local government request, other agency recommendations and the availablity of qualified staff. Still another consideration that was discovered to play a role in the number and location of EFNEP sites was the amount of State and local contributions that were made to the program. Overall it was found that, although not required to do so, the States and their local units provide about the dollar equivalent of half again that of the Federal dollar (viz. about 50¢ for every Federal dollar) in direct (salaries paid from other sources) and in-kind (administrative and physical services provided without charge) contribution to the total EFNEP program (adult and youth combined). [About half of this contribution is realized from volunteer time, especially to the Youth portion of the program.] When States were ranked by their percent of low-income families it was found that States with the lowest concentrations of national poor relative to their total populations made the greatest relative contributions while States who were highest in this regard made the lowest contributions.

How Do Counties That Currently Have or Formerly Had EFNEP Differ From Those That Never Had EFNEP in Terms of Different Indicators of Need? and To What Extent Are Certain Program Activities Concentrated in Counties Where the Need For Such Activities is Greatest?

When counties that had EFNEP (either currently or formerly) were compared with those that had never had EFNEP, it was found that EFNEP counties were more likely to: have the largest numbers of people at all income levels*; have greater numbers of households participating in the Food Stamp program+ and receiving other forms of public assistance*+; have a WIC# and a NET# program; have high infant and total mortality rates*, have proportionately more young children (under 5)* and, have proportionately fewer children (under 18) living with both parents*. Other analyses showed that counties that ranked high on one indicator of need tended to also rank high on other indicators of need.

When counties were ranked by their proportion of poverty level families (using the 1970 census) a marked trend was noted for the higher poverty level counties to have EFNEP and WIC programs. However, in terms of program participants, there was a dramatic tendency for the percent of program participants in a county to increase, for EFNEP, WIC and Food Stamps, as the proportion of poor families in a county increased.

How Do Counties Focus Services in their Different Locales? and What Are Peoples' Views As to the Appropriateness of Those Currently Served and Others That Might Be Served?

According to the guidelines local EFNEP units are to focus services on homemakers with young children who are eligible for USDA food assistance programs and who are receiving welfare assistance. In the 36 Sites included in this study, homemakers were found to be one-third white with the remainder being minority group members (Blacks and Hispanics in that order); likely to have low educational levels (about one-fourth had an eighth grade education or less while

*Using 1970 Census information.
+Using FY '79 Food Stamp participation information.
#Using FY '79 WIC or NET participation information.

another 65 percent had at least some years of high school); likely to have very low income levels (more than three-fourths had incomes of less than $516 per month); likely to be Food Stamp participants (61 percent), WIC participants (45 percent) and Welfare participants (45 percent); and, are highly likely to have at least one child (88 percent). Almost everyone felt that EFNEP was serving the appropriate groups (90% at the State and local level and 2/3 at the national level) and that if other groups were to be served they should be (in order): the elderly, special need groups (adult households and institutionalized populations, pregnant teenagers, Indians, handicapped, etc.), and all economic groups.

What Are Possible Alternative Ways of Targeting Funds and Services? and What Do We Know About Their Possible Effects?

The Changes tried and their possible effects are:

Change Introduced	Results Observed
1. Elimination of the 10% State set-aside.	States with large numbers of U.S. poor would gain but the amounts they receive would be small relative to the amounts they now receive, even though their new additional amounts might be of the magnitude of the total allocation for several States combined. States that now receive the smallest amounts of funds would be especially hard hit even though they might have high proportions of poor within their own boundaries.
2. Use 1970 Census information exclusively rather than both 1960 and 1970 Census information.	States with smaller proportions of the nation's poor or large States, if they have large amounts of poverty would benefit most.

Change Introduced con't.	Results Observed con't.
3. Use some other poverty level (e.g., .75 or 1.25 percent of poverty) rather than the current one (1.00 percent) to make allocations.	Partly because counties with high numbers of poverty level families tend to be the largest counties in population at almost all levels of income, changing the criterion level of program placement from 1.0 to 1.25 or .75 of poverty would probably have little effect on the location of EFNEP sites. The same counties that currently provide EFNEP services would still be prime candidates for EFNEP. Further, as EFNEP sites are phased out, the trend is to remain in the sites that have the greatest numbers of low-income families and it is in these latter counties where this shift would make the least difference.
4. Use other measures of need as a criterion:	
(a) Food Stamp Participation rates	Food Stamp participation rates are related to other measures of need but are not an improvement over other poverty measures.
(b) Health Status	Related to other measures of need but severely out of date in terms of health changes that have occurred
5. Allocate funds directly to the counties rather than the states (using the current set-aside and percent of U.S. poor formula).	The funds would be spread too thin to conduct a viable program in most counties. Urban counties and States with many counties would benefit most. Flexibility in following population shifts (by closing out some sites and starting up others) or in concentrating services (e.g., a pocket of poverty in a wealthy county) would be lost.

What is the Training, Background and Experience of Those Who Administer EFNEP and How Much Time Do They Spend on EFNEP Activities?

The majority of all State and local EFNEP professional personnel have been associated with the program since its inception. Over three-fourths of the

State EFNEP staff (adult program) hold degrees in Nutrition while many of the other EFNEP staff report completing coursework in Nutrition or hold degrees in Home Economics. The amount of time spent on program activities varies from an average of 3/4 time for the State EFNEP Director through 60% for the local Supervising Home Economist and half-time for the State Nutritionist to 5% for the State Extension Director. The nature of their involvement ranges from substantive program activities for the former to primarily budget concerns for the latter.

What Is the Background, Training and Experience of Program Aides and How Much Time Do they Spend on Their Various Activities?

Aides tend to be trained primarily in nutritional principles and food management practices (e.g., purchase, planning, preparation, storage, etc.) by their Supervising Home Economist working in cooperation with the State EFNEP Director and experienced aides, using materials provided by the State EFNEP office (other sources cited were the National EFNEP offices, self- designed, other State offices, businesses, local professionals, and private consumer groups). The majority of aides have been with the program four years or more (40% for more than nine years and another 30% between four and nine years); work full time (64% work 35 hours or more per week), 62% are minority group members, 12% have an eighth grade education or less. The average aide is 14 years older than the current program participant (the average aide is 47 years of age) and their weight for height is generally the same as that of program participants (high but close to that of a socially and ethnically matched population). A typical aide spends her time as follows: teaching, 46%; recruiting and record keeping, about 11% each; lesson preparation, 10%; travel and receiving training, about 9% each; with the remainder spent on miscellaneous activities - however,

there was wide variability for some of these activity areas. Door-to-door canvassing by the aide still remains the primary means by which families are recruited into the program. However, referrals from other programs have increased by 140% for recent program entrants (currently 24%, formerly about 10%).

To What Extent and In What Ways Does EFNEP Cooperate With Other Assistance Programs?

The primary means by which EFNEP cooperates with other assistance programs is through referrals (other means cited were to provide program support and serving on advisory boards). Referral rates out of EFNEP to other programs were two to four times higher than were referrals to EFNEP. Out referrals cited most frequently were for health provisions and to other Extension programs (including Youth EFNEP). Recent entrants to the program, when compared with those who have been participating a while or have graduated from the program, report a high incidence of referrals to EFNEP from Food Stamps, Welfare & Health Agencies and a lower incidence of referrals to Youth EFNEP and other Extension programs - a change probably brought about in part by the recent emphasis on reaching greater numbers of Food Stamp participants.

How Are Instructional Materials Developed? and, What Procedures Are Followed To Insure That All Relevant And Current Nutrition Related Research Is Made Available and Considered in Planning and Implememting EFNEP Activities?

Instructional materials used by the aides with program families are developed primarily by the State Extension Office and the National EFNEP Extension Office. In addition some materials are self designed by the Supervising Home Economist and the State EFNEP Nutritionists. In the development of these latter kinds of materials, government publications were the most frequently cited sources. All of the State EFNEP Nutritionists indicated

that they tested materials used in the program using, at times, criteria of effectiveness and popularity, but never national standards or according to other tested materials. The preferred methods of ethnic adaptation of materials were through the observation of cultural factors, use of bilingual materials and training of aides. Least preferred was the ethnic matching of aides with families.

The State EFNEP Nutritionist is responsible for reviewing nutrition materials for use in EFNEP and for identifying current trends to update materials, as well as adopting and preparing nutrition education materials. As a way of getting at how current information and materials were made available to EFNEP, the frequency of contact and purpose of contact with the State EFNEP Nutritionists by other State and Local EFNEP personnel were examined. Eighty-nine percent of all State EFNEP Directors and 83% of all local EFNEP Directors reported that they maintained contact with the State Nutritionist for educational materials, content information and training assistance (in roughly that order of frequency).

Why Do Homemakers Enroll in the Program?, When and Why Do Homemakers Leave the Program Early?, and How Do They Differ From Those Who Stay?

Families who elect to enroll in EFNEP, when compared with those who decline are those who have the time to get involved, the desire and need to do so, and the accessibility to do so (as reported by local staff). Of the homemakers who leave the program before completion (some 25% overall with local sites ranging from a low of 2% to a high of 79%), one-fourth do so during the first six months of participation with another 15-20% leaving in each of the subsequent six month periods. Reasons given for leaving early were: returned to work, moved, or no longer had the time or interest. Those who left when compared with their

classmates tended to be younger, white or Hispanic, have less education and lower monthly income, come from rural areas and participate less in the WIC program. They did not differ appreciably in their dietary practices (24-hour dietary recall) when they started in the program.

What Standards or Criteria Are Used To Measure the Attainment of Program Objectives? How Valid Are These Standards or Criteria? What is the Impact of the Program on the Resolution of Nutrition Problems? To What Extent Has the Program Met Its Objectives

To gauge the progress of individual homemakers the program prescribes the Progression Model which is comprised of a 24-hour dietary recall and a checklist of behaviors pertaining to food practices. Through periodic administrations of these instruments the aide can gauge homemaker progress and areas that need emphasis. For purposes of this study the following kinds of information were collected by interviewers who were especially hired and trained for such purposes: knowledge about food and nutrition (e.g. knowledge of proper food storage practices, food as sources of different nutrients, etc.), food budgeting and shopping practices, amount of food grown at home and, dietary practices via a 24-hour recall and frequency of consumption of different food groups over a 3 month period of time. Analysis of this information showed that individual homemakers improved with regard to their: food and nutritional knowledge; food shopping and budgeting practices, dietary practices (as indicated by the 24-hour recall with most of the improvement occurring in the fruits and vegetables and, breads and cereals group); amount of food grown at home and amount of budget spent on food (less with more time spent in the program). Most of these improvements reached a plateau after about 12 to 18 months of participation, and though seldom large, were sizeable enough to be of practical significance. Homemakers were found to benefit in different ways from their participation

(viz. not equally in all areas) with these benefits persisting after completion of the program. Homemakers reported improved dietary practices by their children with most of the improvement occurring in the breads/cereals and fruit/vegetables food groups (these improved practices were also reported by graduates for their children). Almost all participants found their participation useful even though many remained overweight or underweight when compared to weight for height standards. Other analyses showed: that the 24-hour recall was not a good indicator of more habitual dietary practices of individual homemakers and was probably a weak measure of program attainment as well; and, that one-on-one instruction remains the most widely used instructional approach. Almost all of the program participants and graduates (98% or more) thought it was a good way to learn but they would like to see more demonstrations and tips added to the lessons.

What Are the Benefits Achieved By Each Program's Activities In Each County?

Analysis showed that for the learning experienced by their homemakers, local units vary to a considerable extent for food knowledge and food practices, to a substantial extent for dietary practices and virtually not at all for percent of income spent on food and percent of food homegrown. Further, very small relationships were observed among these different areas indicating that local site success is multidimensional with success in one area having very little to do with success in other areas.

What Is the Cost-Effectiveness or Cost-Benefit Ratio For Each Program? How Does This Cost Vary by State and by County? To What is This Variation Attributable?

A large number of variables were examined, singly and in combination, to determine the extent to which they were related to differential performance of the sites on the outcome measures. Cost related variables were included as well

as other variables related to supervision, training, characteristics of the homemakers and the aides, interagency cooperation, state of the records, etc. Neither substantial nor meaningful relationships were discerned. At times the absence of a relationship was noted where one was to be expected. For example, an index indicating how well records were maintained at each site was not found to be related to any of the site success measures. Further, the sites within a State were not consistently high or low on any of the success measures. Instead, each State had some high sites and some low sites. As a consequence it was concluded that knowing the State in which an EFNEP unit is located tells one nothing about the relative effectiveness of the site. On the basis of the results of other evaluation studies it was conjectured that differential site success might be attributable to the manner in which a set of planning and management activities are carried out by the local unit supervisor with their conduct not being discernible through the usual questionnaire and interview techniques.

How Does The Effectiveness of EFNEP Programs Compare With The Possible Effectiveness Of Other Methods of Achieving Nutrition Education Objectives Such As Food Stamps (FS), The Women, Infants and Children Programs (WIC) And Nutrition Education In the Schools (NET)?

This question was addressed in three ways: (1) by asking individuals at the national level their perceptions of the relative effectiveness of these different programs; (2) by conducting a very thorough comparative analysis and synthesis of a number of USDA nutrition education activities; and, (3) an analysis of how FS and WIC participants who are also in EFNEP, benefit from their participation.

Many of the national level interviewees (37%) thought that no one program had a greater likelihood of success than another but rather there should be

linkages and interactions among the programs. Another 22% thought that WIC had the greatest likelihood of success because pregnant women are motivated out of their desire to have a healthy baby and because the program has a food package. Other respondents indicated that they didn't know (20%) or chose NET (14%) or EFNEP (12%).

The comparative study examined six program areas of nutrition education activity with regard to the following categories: similarity of objectives; the way nutrition information is provided; requirements for program participation; the number of eligible participants reached and their background characteristics (ethnic and regional membership); levels and trends in funding; and, the nutrition education impact of their activities. The six programs for which reviews were conducted are: the Expanded Food and Nutrition Education Program (EFNEP) - both the Adult and Youth Components; the General Food and Nutrition Program of the Extension Service; the Extension 4-H Food and Nutrition Program; the Food Stamp Program (FSP); the Nutrition and Education in the Schools Program (NET); and, the WIC Program - both the Adult and Youth Components. The results showed that all six programs share two basic nutrition education objectives: (1) provision of information on nutritional value of foods; and, (2) provision of information on food management skills. However, while each program strives to meet these nutrition education objectives, each program differs in its methods, activities, emphasis and/or resources. Further, with regard to the impact of some of these programs very little is known in an absolute sense and even less about one relative to the others. EFENP has completed five studies; 4-H has completed two; NET has completed one and WIC has two in progress. In addition to the small number, all vary in scope and purpose which limits

comparisons across studies. Finally, the variations in program services, staff, resources, the nature of the records that are kept and the manner in which they are kept place definite constraints on the relative comparison of the different program outcomes. As a consequence no definite conclusions can be reached about the effectiveness of ENFEP versus other nutrition education activities.

Finally we can view the efforts of these programs as being complementary rather than competitive by examining how EFNEP participants who are also participating in the FS or in the WIC program differ from those who are not participating in such programs in terms of the progress they manifest. Results of these analyses showed that where differences were observed they tended to favor WIC over non-WIC participants (viz. on food practices, dietary recall, and percent of food homegrown). Results for FS participants were not as pronounced (except for percent of income spent on food) nor were they consistent enough across the different homemaker groups to lend themselves to some kind of generalization. Children of WIC and of FS participants showed more dietary improvement than did children of non-participants, however, these differences were not statistically significant.

What Can Be Learned From Variations in the Way EFNEP Is Currently Implemented?

A series of case studies were conducted of sites which were judged to be worthy of study in some detail because they might give some indication of unusual flexibility and/or effectiveness in the way the program is carried out.

The results showed that: through the use of indigenous paraprofessionals the program can be adapted to meet the needs of groups as diverse as Native Americans residing on reservations to migratory farm workers (the latter with considerable administrative difficulty); with the assistance of specific State

legislation, the program can be implemented in conjunction with other nutrition activities so as to decrease duplication of services, sharpen the focus on the most needy and improve the impact of the program on participating families; also, by emphasizing individual accomplishment and the availability of employment, education and training programs, EFNEP can emphasize self-development with the result that many homemakers manifest greater social participation including the acquisition of additional skills and employment; and finally, temporary terminations of the program in one or more sites, may be utilized as an opportunity for reassessment and restructuring of the program in ways that might improve its efficiency and effectiveness.

By What Means Is Or Might Instruction Be Provided and What Are People's Views As to Their Actual or Potential Effectiveness?

The most frequently used method of instruction, most publicized for effectiveness, most criticized for inefficiency, yet popular with the program participants is the one-on-one method of instruction. When asked about alternatives to the one-on-one method, Extension staff indicated that small group meetings and large group meetings were considered to be the most and least effective alternatives respectively. Mass media and television were regarded as the second and third most effective alternatives. Homemakers indicated that they were likely to attend group meetings (84% or more), watch TV programs (83%), listen to radio programs (56% or more) and read newspaper articles (80%) about nutrition. However there was no evidence to suggest that they would actually do so (newspapers and magazines observable in the home, nature of TV programs being watched during the interview etc.).

Are There Ways In Which EFNEP Might Be Conducted Which Could Improve It's Efficiency and Effectiveness?

To address this question the results of 16 demonstration projects designed

to use innovative methods to increase the number of Food Stamp participants reached by EFNEP were examined. These projects utilized a wide variety of ways of recruiting families and of providing them with services. For example recruiting strategies included the use of media, personal contacts of different kinds and in different settings (e.g stores, drop-in centers, intact groups, etc.), and inserts to food stamp certificates. In addition to the one-on-one, other means of providing services included presentations/demonstrations, small groups, mail, phone, and shortened and improved curricula. The results showed that: (1) States and local sites can devise practices which they consider different from what they do routinely which can enhance the efficiency, effectiveness and even cost/effectiveness of their activities; (2) the effectiveness of different combinations of practices will vary with the context in which they are implemented; and, (3) attrition is a serious problem for all means of providing services but apparently much more so for media than for more personalized efforts.

SUMMARY

In brief these results show that:

- in response to concerns about hunger and malnutrition among low-income families in the U.S. during the 1960's, activities were expanded that enhanced access to food and improved knowledge about sound nutritional principles and practices.
- currently, (circa 1980) problems of hunger have abated while problems of imbalances in consumption, including overconsumption, remain,
    - the alleviation of such problems requires a greater emphasis on a knowledge of sound nutritional principles and practices than does the alleviation of hunger.

- EFNEP was initiated during the late 1960's as a means of helping low-income families acquire the knowledge, skills, attitudes and changed behavior necessary to improve their diets in normal nutrition
    - this goal has remained the same since the inception of EFNEP and is shared by most persons associated with it
        - such persons also feel that if the program is to be judged on any single accomplishment it should be the extent to which it improves dietary practices
        - problems in loss of program purchasing power (near level funding combined with inflation) and program design (e.g. undue reliance on: the one-on-one instructional approach, the 2-2-4-4 food groups, etc.) were cited as important impediments to the accomplishment of the program goal
    - the national office prescribes approximate standards for participant attainment and completion and collects information routinely on participant improvement in dietary practices as well as other participant information
        - the utility of this information for indicating homemaker's more habitual dietary practices and for indicating homemaker progress were considered weak, at best
        - the utility of this information for indicating local unit program impact, even when maintained conscientiously, was not evident
    - empirical support was not found in the literature for the assumption that indigenous paraprofessional aides were superior to non-indigenous para-professionals and professional personnel in providing nutrition education (the absence of such evidence

should not be construed to mean that the assumption is invalid),

- support in the literature was found for other causal assumptions in EFNEP implementation although the supporting evidence had, at times, methodological limitations.

EFNEP has been and continues to be effective in targeting funds and services in areas of greatest need and to many needy families, who are judged by associated personnel to be the most appropriate recipients of such services,

- although not required to do so States and local units contribute about fifty cents for every Federal dollar received, in direct and in-kind services,
- no beneficial effects of altering current procedures for allocating funds were discerned.

appropriate types and amounts of training and experience were evident on the part of EFNEP staff as was the amount of time given to supervision and management.

EFNEP cooperates with other assistance programs primarily through referrals.

- referrals from other programs (e.g. Food Stamps, and WIC) have increased dramatically recently (circa 1980).

instructional materials are developed primarily by the State and National Extension Offices, usually working in close cooperation,

- the State EFNEP Nutritionists appear to be heavily involved in this process.

some local sites experience a high percentage of homemaker dropout before program completion.

homemakers who remain in the program show improvement with regard to their food and nutritional knowledge, skills and practices,

- such improvement reaches a plateau after 12 to 18 months of participation with different homemakers benefitting to different degrees in different areas (e.g. knowledge, consumption, budgeting, etc.),
- homemakers reported improved dietary practices for their children,
- benefits derived from participation persist after completion of the program.

- local sites were found to be differentially effective, however, those that were more effective in one area (e.g., knowledge acquired) were not necessarily more effective in another, different area (e.g., improved dietary practices).
  - causal factors that might explain differential site success were not isolated perhaps because they are less tangible and hence less identifiable through the usual questionnaire and interview techniques.
- evidence was not available on the relative effectiveness of EFNEP versus other nutrition education programs,
  - among EFNEP participants trends were observed for WIC participants to fare better than non-WIC participants and for the children of WIC and FS particpants to fare better than those of non-participants.
- states and local sites can devise practices and adapt the program in ways that are different from what they routinely do which can enhance the efficiency, effectiveness and cost/effectiveness of their activities.

Recommendations for program improvement include the following:

- In selected trial sites practices designed to enhance the cost-effectiveness and efficiency of the program (e.g. different combinations of media, individual and group instruction) should be systematically introduced and their effects assessed using acceptable evaluation procedures.
  - In such sites, the administrative guidelines should be waived to the extent necessary (they currently require that at least 70% of of programs funds be spent on paraprofessional salaries), evaluation activities should be supported by an increment of up to 10% of existing program funds, with the results being shared with other sites so that they can redesign and assess the effects of their restructured program activities.
  - During this period of transition to greater cost-effectiveness, appropriate indicators of progress would be the cost-effectiveness of activities in trial sites and the rate at which sites are converted to greater cost-effectiveness, rather than overall program impact.

- The basic four food group paradigm should be reexamined with regard to:
  - The number of groups to be used
  - The emphasis to be given to imbalances in consumption and control of total caloric intake
  - How best to emphasize the role of energy expenditure in maintaining desirable weight while at the same time allowing enough food to be eaten so that needed nutrients can be obtained.

- A core curriculum should be developed which encompasses concepts of mastery of its different instructional areas and completion of the basic program.

- Practices should be encouraged which facilitate serving greater numbers of participants in the FS and WIC programs.

- The current record system should be re-examined with regard to its objectives, purposes and content, frequency and accuracy of maintenance required, with a view towards simplifying and streamlining the entire process.

- Efficiencies in the program as it currently exists can be made in the following ways:
  - the period of instruction can be shortened
  - in sites that have high dropout rates, these rates can be reduced by allowing aides to work more intensively over a shorter time period with their families
  - aide time spent on door-to-door recruiting, record-keeping, travel and perhaps training might be reduced
  - States should perform program reviews of their own sites with greater frequency and rigor.

For more information about this study call (703) 235-3168 or write to:

Program Development, Evaluation and Management
Systems Staff
Extension Service
Science and Education
U.S. Department of Agriculture
Washington, D.C. 20250